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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/487,718      | 01/19/2000  | Mitsuaki Amemiya     | 35.C14183           | 3490             |

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EXAMINER

KUNEMUND, ROBERT M

ART UNIT PAPER NUMBER

1765

DATE MAILED: 03/04/2002 //

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/487,718

Applicant(s)

AMEMIYA, MITSUAKI

Examiner

Robert M Kunemund

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 January 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 33-36, 39, 56 and 57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 33-36, 39, 56 and 57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

### The Rejections

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 33 to 36, 39, 56 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy et al. in view of Mizugaki et al.

The Kennedy et al reference teaches a method of crystal growth. In a furnace, a crucible of melt is formed and then the crucible is moved so as to create a crystalline growth front and crystallize the melt into a single crystal. There is a plurality of temperature measurements taken during the growth by thermocouples. The information is then fed to a control loop system to control temperatures and growth in the furnace, note entire reference. The sole difference between the instant claims and the prior art is the growth of fluorides.

However, the Mizugaki et al reference teaches Bridgeman growth of fluorides to create crystals, note, col. 2. It would have been obvious to one of ordinary skill in the art to modify the Kennedy et al process by the teachings of the Mizugaki et al reference to grow fluorides in order to obtain large crystalline fluorides.

*Response to Applicants' Arguments*

Applicant's arguments filed January 3, 2002 have been fully considered but they are not persuasive.

Applicants' argument concerning the Kennedy et al reference is noted. However, the claims are directed to a method of crystal growth. The Kennedy et al reference teaches the crystal growth process as claimed. The reference does take temperature measurements and uses such measurements to control the growth of the crystal in the crucible. Applicants have not shown that the apparatus limitations in the claims create a different process than that set forth in Kennedy. Apparatus limitations in process claims are given little or no weight in determining patentability, note In re Traczy-Hornock USPQ .

Applicants' argument concerning the Mizugaki et al reference has been considered and not deemed persuasive. The reference is relied on to modify the Kennedy et al process by showing that fluorides can be grown by the Bridgeman method. Such modification would have been obvious to one of ordinary skill in the art as the Kennedy et al reference teaches a control loop to increase crystalline quality.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

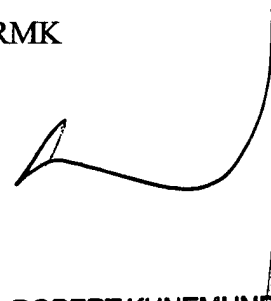
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Robert Kunemund at telephone number 703-308-1091.

RMK

A handwritten signature in black ink, consisting of a stylized 'R' followed by a horizontal line and a vertical line that curves upwards at the end.

**ROBERT KUNEMUND  
PRIMARY EXAMINER**